REMARKS

Claims 1-17, 19-29, and 31-33 are pending.

Claims 18, 30, and 34-36 have been cancelled, without prejudice.

Claims 37 and 38 have been added.

In the Office Action mailed March 10, 2010, claims 1-7, 12-15, 17-22, 25-32, 34-36 were rejected under 35 U.S.C. § 102(e) as anticipated by Shah (U.S. Patent Publication No. 2004/0084180); claims 8-10 and 33 were rejected under 35 U.S.C. § 103(a) as unpatentable over Shah in view of Finsterle (iTough2 User's Guide); claim 11 was rejected under 35 U.S.C. § 103(a) as unpatentable over Shah in view of Akin (Analysis of Tracer Tests with Simple Spreadsheet Models); claim 16 was rejected under 35 U.S.C. § 103(a) as unpatentable over Shah and further in view of Curtis (U.S. Patent No. 3,913,398); and claims 23 and 24 were rejected under 35 U.S.C. § 103(a) as unpatentable over Shah in view of Tubel (U.S. Patent No. 6,082,454).

Claim 1 has been amended to recite the following clause:

wherein the inverting comprises using an optimization algorithm that solves an optimization problem for calculating the production rates, where the optimization problem minimizes an error between the measured temperatures and corresponding temperatures calculated by the model.

Support for this amendment can be found at least in the following passages of the present application: ¶¶ [0050]-[0052]. Similar support exists for the amendments of independent claims 19 and 26.

It is respectfully submitted that claim 1 is allowable over Shah, which fails to disclose using an optimization algorithm that solves an optimization problem for calculating production rates from different producing zones in a well, where the optimization problem **minimizes** an error between the measured temperatures and corresponding temperatures calculated by the model. Although ¶ [0038] of Shah refers to approximately matching calculated and measured quantities to within acceptable tolerances, this teaching does not provide any hint of an optimization algorithm that solves an optimization problem that **minimizes** an error between measured temperatures and corresponding calculated temperatures from a model.

The other references cited by the Office Action also do not provide any hint of the foregoing subject matter.

Claim 1 is therefore allowable over all cited references.

Independent claims 19 and 26 are allowable for similar reasons as claim 1.

Independent claim 12 has been amended to recite measuring a total flow rate from the well, and where determining flow rates comprises inverting the measured temperatures by applying a model, where the inverting comprises allocating the total flow rate among the plurality of well zones. Support for the amendments of claim 12 can be found at least in the following passages of the present application: ¶¶ [0016], [0019], [0022], [0024].

Paragraph [0036] of Shah refers to measuring volumetric flow rates at the wellhead 22. However, there is no teaching or hint in Shah of using a total flow rate from the well to allocate the total flow rate among the plurality of well zones in performing inverting to determine flow rates of a plurality of liquid phases through the plurality of well zones.

The other references also do not provide any teaching or hint of the foregoing claimed subject matter.

Therefore, claim 12 is also allowable over the cited references.

Dependent claims, including newly added dependent claims 37 and 38, are allowable for at least the same reasons as corresponding independent claims.

In view of the allowability of base claims, the obviousness rejections of dependent claims have been overcome.

In view of the foregoing, allowance of all claims is respectfully requested.

The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (103.0009).

Respectfully submitted,

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